Predictors of Parental Vaccine Hesitancy/Refusal towards COVID-19 Vaccines in North Cyprus

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We certify that we have read this thesis and that in our opinion it is fully adequate in scope and quality as a thesis for the degree of Master of Science in General Psychology.

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ABSTRACT

This study aimed to investigate whether certain factors such as conspiracy, rumination, and parenting styles could predict parental vaccine hesitancy/refusal toward COVID-19 vaccines. The COVID-19 virus has been a massive health threat worldwide and has resulted in vast number of human lives. To prevent and lessen the impact of the virus, vaccines have been implemented. These vaccines are now also available for children however, parental refusal and hesitancy to vaccines were observed all over the world. An online survey was conducted to investigate parental COVID–19 vaccine hesitancy/refusal on a sample of 200 parents from North Cyprus. The online questionnaire gathered information on demographic information, parenting disciplinary styles, trust to health care professionals and government, conspiracy, and ruminative thinking. The variables investigated were found to lead to vaccine hesitancy/refusal for children and for themselves. Conspiracy thinking was found to result in parental vaccine hesitancy/refusal whereas ruminative thinking was found to reduce hesitancy towards vaccines. Decreased levels of trust in health authorities and government were also a good predictor of vaccine hesitancy/refusal. Poor supervision in parenting was also found to be negatively correlated with vaccine hesitancy/refusal. Reviewing these predictor variables for vaccine hesitancy/refusal can be a good indicator for vaccination strategies. It can also offer a likely solution to prevent parental vaccine hesitancy/refusal currently and in the future.

Keywords: Vaccine Hesitancy/refusal, COVID-19, Conspiracy Thought, Ruminative Thinking, Parenting

ÖZ

Bu çalışma, komplo, ruminasyon ve ebeveynlik stilleri gibi belirli faktörlerin ebeveynlerin COVID-19 aşılarına karşı aşı tereddüdünü tahmin edip edemeyeceğini araştırmayı amaçladı. COVID-19 virüsü dünya çapında büyük bir sağlık tehdidi olmuştur ve çok sayıda insanın hayatına neden olmuştur. Virüsün etkisini önlemek ve azaltmak için aşılar uygulanmıştır. Bu aşılar artık çocuklar için de mevcuttur, ancak tüm dünyada ebeveynlerin aşıları reddetmesi ve tereddüt etmesi gözlemlenmiştir. Kuzey Kıbrıs'tan 200 ebeveynden oluşan bir örneklem üzerinde ebeveynlerin COVID-19 aşısı tereddütlerini araştırmak için çevrimiçi bir anket yapılmıştır. Çevrimiçi anket aracılığıyla, demografik bilgiler, ebeveynlik disiplin stilleri, sağlık uzmanlarına ve hükümete güven, komplo ve ruminatif düşünme hakkında bilgi toplanmıştır. İncelenen değişkenlerin çocuklar ve kendileri için aşı tereddüdüne yol açtığı tespit edilmiştir. Komplo düşüncesinin ebeveynlerde aşı tereddüttü ile sonuçlandığı, ruminatif düşüncenin ise aşılara karşı tereddüttü azalttığı bulunmuştur. Sağlık otoritelerine ve hükümete olan güven düzeylerinin düşük olması da aşı tereddüdünün önemli bir göstergesi olmuştur. Ebeveynlikte zayıf denetimin de aşı tereddüttü ile negatif ilişkili olduğu bulunmuştur.

Anahtar Kelimeler: Aşı Tereddütü/kararsızlık COVID-19, Komplo Düşünceler, Ruminasyon, Ebeveynlik

DEDICATION

To My Beloved Family

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INTRODUCTION

On March 11th, 2020, World Health Organization (WHO,2020) confirmed COVID-19 as a pandemic. The COVID-19 pandemic has been one of the challenging worldwide health crises which have led to significant loss of human lives and has posed a threat to public health. To minimize the impact of the virus, governments around the world has taken different measures to combat the pandemic, including strict quarantine, physical separation measures, border closures, and increased testing. Additionally, governments began to implement vaccine schedules after vaccines were approved for clinical use. These vaccines are now known to be an effective and safe prevention method for all individuals aged 6 months and above (WHO, 2022). Vaccination was a glimmer of hope for a return to normal life. However, after the introduction of vaccination programs, some people were hesitant to get vaccinated.

1.1 Vaccine Hesitancy

Vaccine hesitancy/refusal is defined as delayed acceptance, reluctance, or refusal of vaccination despite the availability of vaccination services (MacDonald et al., 2015). This hesitancy towards vaccinations has been identified as being one of the top ten global health threats (WHO, 2019) during the pandemic. The reason for vaccine hesitancy/refusal has been identified by MacDonald (2015) to be contextual, individual, and specific issues. These issues are assumed to include social media, culture, religion, awareness, and reliability of the source of vaccinations. A study indicated that individuals with high trust in their governments have been more likely

to receive vaccinations, people with higher socioeconomic status, and those who were vaccinated against some diseases (ex: flu) before were more willing to receive vaccinations for COVID-19 (Lazarus et al., 2020). However, vaccine hesitants are mostly found to worry about the safety of the vaccines (Santibanez et al., 2020). Literature suggests that females have a reduced perceived risk of COVID-19, higher beliefs in conspiracy-related theories about the pandemic and worries about the safety of vaccination during pregnancy and lactation (Müller et al., 2021). In addition to these factors, the most frequent reason behind vaccine hesitancy/refusal has also been referred to as the inconsistency of information provided to individuals and the lack of trust in information provided by social media platforms (Soares et al., 2021).

It is critical to recognize that primary caregivers' and parents' knowledge of and attitudes toward vaccine efficacy and safety may influence vaccination decisions for children and primary caregivers play a critical role in promoting high immunization rates (Morrone et al., 2017). Research suggests that parents who delay childhood vaccinations are mostly hesitant due to concerns about side effects and a lack of advice from pediatricians (Napolitano et al., 2018). A lack of knowledge about vaccine-preventable illnesses may lead to parents refusing to vaccinate their children or allowing the condition to run its natural course (Domachowske & Suryadevara, 2013). According to a review done by Forster et al., (2016), distrust of vaccine information and distrust of healthcare professionals and governments has been the critical themes identified. Moreover, certain parents might think that some medical personnel lacked competence in their understanding of vaccinations and their negative effects, which was expressed as mistrust towards physicians as well as suspicion (Díaz Crescitelli et al., 2020). Additionally, in the same research, it was found that parents thought there was insufficient time to talk with medical specialists about immunizations. Given this

rise of vaccine hesitancy/refusal throughout the years and the emergence of the COVID-19 pandemic, parental vaccine hesitancy/refusal towards COVID-19 vaccines has also become one of the most important public health concerns all over the world.

This study aimed to explore different predictors of parental vaccine hesitancy/refusal. These predictors include parenting styles, conspiracy thoughts, ruminative thoughts, and trust/mistrust of government and health authorities. Parenting styles were a key variable in this study since prior research had not addressed the association between parenting styles and vaccination hesitancy. The same may be said for conspiratorial thinking; conspiracy theories have been connected to vaccination hesitance and refusal. Previous research has not examined the adaptive form of ruminative thinking on vaccine uptake; hence this study intends to add to the knowledge on ruminative thinking. Trust in health authorities and governments was another element aimed at increasing knowledge of the significance of trust and educating healthcare professionals and related organizations. All these variables will be extensively discussed in the following sections.

1.2 Parenting Styles and Vaccine Hesitancy/Refusal

Parenting styles play a vital role in child development, and it has been found to have a massive effect on a child's emotional, cognitive, and social development (Morris et al., 2017).

Parenting style is defined as the attitudes of the parents toward the child that are conveyed to him/her/them, as well as the emotional context in which the parents' behaviors are manifested (Darling & Steinberg, 1993). Diana Baumrind in the 1960s identified four different parenting styles; permissive, authoritarian, neglectful, and

authoritative. These distinct parenting styles differ in terms of parental authority and arrays of parental behavior.

Parents who are authoritative and act in a way that is adequate, sensible, and child-focused (Huang, 2023), might be expected not to be vaccine-hesitant. Baumrind (1966) identified this type of parenting style as being highly responsive and demanding. Parents with this type of parenting tend to hold warm and responsive manners toward their children. They mainly engage in open discussions with their child and offer guidance. Authoritative parents respect their children's autonomy and supply them with a lot of freedom to encourage independence. According to Baumrind's research on parenting styles, children of these parents tend to be more independent, active, and happy and can develop worthy self-esteem and social skills (Steinberg et al., 1992). Authoritative parenting was suggested to result in children that are autonomous, disciplined, and curious since this parenting style is described as warm and sensitive to children's needs (Bibi, 2013).

In terms of vaccinations, parents with positive parenting are expected to be open to discussing and agreeing on a decision that is best suited for their child's health. Many parents are found to be skeptical about vaccinations at first however, authoritative parents are not projected to be vaccine hesitant as they are supportive of their children's vaccine recommendations (Fisher et al., 2021). Consistent monitoring and supervision of parents have been found to result in more childhood vaccinations (Rosenthal et al., 2008).

Whereas parents with a neglectful style tend to concentrate on their own needs. They don't provide their children with clear guidelines or adequate assistance, and they don't

attend to their children's needs (Choong, 2023). According to Baumrind (1991), neglectful parents are neither responsive nor assertive. They do not promote or support their children's self-regulation, and they frequently miss checking or supervising the child's behavior. A higher level of reported mistrust and a lower level of parental involvement, supervision, and control were characteristics of parenting in neglectful homes (Aunola et al., 2000). Neglectful parents' children, maybe impulsive and lack self-regulation since neglectful parents are not receptive to their children's needs and do not demand anything from them (Baumrind, 1991).

In some cases, not vaccinating children might be regarded as child neglect. For instance, in Topcu et al's, (2019) study, it is stated that individuals who are refusing or delaying vaccinations for their children are found to be prone to act carelessly. However, Kumar, Aggarwal, & Gomber, (2010) highlight the importance of parents' level of education, lack of understanding, insufficient communication by healthcare practitioners, and vaccination myths in regard to immunizing their children to certain health problems.

1.3 Conspiracy Thoughts and Vaccine Hesitancy/Refusal

Conspiracy theories are a form of belief system that has frequently had disastrous historical consequences. For example, the "stab-in-the-back" myth, which claimed that a Jewish and Communist conspiracy was to blame for Germany's defeat in World War I, or the widely held belief that HIV was created in American laboratories are examples of violent ideologies that people have supported (Freeman & Bentall, 2017).

It is suggested that incorporating conspiratorial thinking in studies of hesitation is crucial because people who have a high level of conspiratorial thinking are more likely

to see obligatory childhood vaccination in a negative light (Hornsey et al., 2018). Conspiracy theories about vaccinations are primarily based on the belief that the virus is deliberately spread, and people who believe in these conspiracies are predicted to be vaccine hesitant (Uscinski et al., 2020).

Conspiracy thoughts about vaccines are generally centered on ideas about how the virus was created by humans (Pummerer, 2022). These negative beliefs include the ideas such as implanting microchips into people to control them. Further allegations that the COVID-19 vaccinations may prevent conception and reduce the expansion of the human population, attracted much attention on social media. Such unsubstantiated statements have been found to have a significant negative impact on how the public feels about potential vaccinations (Sallam et al., 2021).

These conspiracy thoughts according to Islam and colleagues (2021) have arisen from past experiences and rumors about vaccinations. Parents who tend to think conspiratorially are more likely to believe the myth that vaccines cause autism or at the very least to doubt the safety of vaccines and these parents are found to be more inclined to put off vaccinations for their children to protect them (Callaghan et al., 2019).

Vaccine acceptance seems to become harder when individuals face negative past experiences with previous vaccinations (Dubé & MacDonald, 2016). Painful vaccinations and negative experiences at immunization visits have also been linked with parental vaccine hesitancy/refusal (Stockwell et al, 2011). Thus, bad medical experiences in addition to past immunizations may lead to mistrust of vaccines and impact vaccine uptake (Christou-Ergos et al., 2022).

There has been a vast amount of research arguing the clear link between conspiracy theories and misinformation on social media. Chadwick et al., (2021) have found promising results on online endorsement strategies for COVID-19 vaccinations where individuals chose to use social media to spread misinformation about vaccinations. And the results are in line with the current predictions that these types of informational strategies might lead individuals to be hesitant toward COVID-19 vaccinations. Moreover, in a recent study, it was discovered that participants' likelihood of saying they would "definitely" receive the coronavirus vaccine decreased by 6.2 percentage points in the UK and 6.4 percentage points in the USA after being exposed to false information including conspiracies about the disease and the vaccine (Loomba et al., 2021). Sallam et al., (2020) found that 58.5% of the participants believed that COVID-19 is a human-made disease, and this has been found to result in a massive public health threat due to its association with vaccine hesitancy/refusal. Consequently, it will be fair to say that misinformation provided by various sources can result in more conspiracies and affect hesitancy towards vaccines. Parents who are challenged with this misinformation can be more hesitant towards vaccinating their children.

1.4 Ruminative Thinking and Vaccine Hesitancy/Refusal

Apart from conspiracy thoughts, ruminative thinking can result in vaccine acceptance. Rumination is a type of coping mechanism that requires self-focused concentration on negative events or negative emotions (Lyubomirsky &. Nolen-Hoeksama, 1993). According to the Response Style Theory proposed by Nolen-Hoeksema (1991), rumination is a type of distress response that entails focusing on symptoms of discomfort and the likely origins and implications of these feelings repeatedly and passively. Rumination is proposed to be divided into two different subtypes; concrete and abstract rumination (Nolen-Hoeksema, 2003). Abstract rumination is suggested to

lead to people forming unfavorable opinions about themselves, leading to a negative attitude and a tendency for depression (Watkins & Baracaia, 2002). On the other hand, concrete rumination typically involves processing information in a clearer thought content (Stöber & Borkovec, 2002). Individuals with concrete rumination try to understand the event and they are found to report low levels of emotional nervousness (Watkins et al., 2008). Compared to abstract rumination, individuals with concrete rumination have been found to experience embellished problem-solving skills and evaluate themselves and the events around them more positively (Rimes & Watkins, 2005).

It has been suggested that patterns of abstract thinking are associated with higher degrees of negative emotion and physiological excitement that lasts longer and abstract rumination is suggested to not result in active problem-solving to modify the circumstances that are causing these symptoms (Ehring, Szeimes,& Schaffrick, 2009). Instead, ruminators remain obsessed with the problems and their thoughts about them without taking any action (Nolen-Hoeksema et al., 2008). However, in concrete rumination, people experience low levels of anxiety and hopelessness (Watkins et al. 2008). According to a study conducted by Dey, Nevel and Moulds (2019), concrete rumination promotes proactive action, which may be crucial for reducing depression symptoms. Regarding the COVID-19 pandemic, excessive negative ruminations have led to individuals having lower levels of well-being (Satici et al., 2020).

1.5 Trust/Mistrust in Government/Health Authorities and Vaccine Hesitancy/Refusal

Parents mostly prefer to trust healthcare professionals when it comes to getting information about in vaccines (Freed et al., 2011). Meppelink et al., (2019) stated that

when faced with media sources, individuals might be biased when looking for information about vaccinations. According to the findings of Meppelink et al. (2019), people prefer belief-consistent information to belief-inconsistent information and trust this information as being more reliable, valuable, and convincing. Heyne et al., (2022) also suggested that easy accessibility to healthcare professionals or medical information led to more trust in the vaccines and therefore resulted in less hesitancy. Information gathered from healthcare professionals or governments is seen as more trustworthy and hesitancy can be easily resolved with access to accurate and safe information (Aggarwal, 2019). The government's perspective on vaccination is an important factor when trying to build the public's trust in vaccines. Trust becomes important when there is an implicit power imbalance caused by a high degree of knowledge asymmetry. In other words, individuals may find it difficult to believe the sources they are given when there is not enough information available. It is especially vital in socially unpredictable situations when people frequently must make significant decisions based on little knowledge, such as during a public health crisis like the COVID-19 pandemic (Pertwee et al., 2022). Misinformation and conspiracies might arise due to the mistrust of governments and politics.

1.6 The State of Covid-19 Policies and Statistics in North Cyprus

The last updated information about COVID-19 tests was between 12-25 April 2023. A total of 1658 tests were performed, and the number of positive cases detected was 58. There were no causalities. Until now Communicable Diseases High Committee has reported 120656 cases and 263 deaths because of COVID-19. The highest causalities were between August 2021 and May 2022. A total of two child deaths have been reported until 2023 July. There was no information about the vaccination rates of children. The Ministry of Health published the last communication about the benefits

of child COVID-19 vaccination on 24 January 2022 and the Cyprus Turkish Medicine Association shared two links about the issue on January and July 2022. The Communicable Diseases High Committee canceled the obligation to wear masks at the beginning of the 2022-2023 academic year at schools and didn't mention it at any point about vaccination.

1.7 Current Study

This research will aim to examine the predictors of parental COVID-19 vaccine hesitancy/refusal/refusal in North Cyprus. The study will investigate the socio-demographic characteristics of parents, specifically, parents' conspiracy thoughts toward vaccinations. Also, parenting styles will be examined to see if it can act as a predictor for vaccinating or being hesitant. Rumination of these parents will also be investigated to observe whether rumination can act as a protective factor against vaccine hesitancy/refusal. Other factors such as trust in sources of information, government and health authorities, and past experiences about vaccines will all be examined to see if they affect vaccine hesitancy/refusal/refusal of parents.

The following research questions are sought to be answered:

- Does age, educational level and socioeconomic status of parents relate to vaccine hesitancy/refusal/refusal for their children?
- Do parents' past experiences about vaccinations related to vaccine hesitancy/refusal/refusal for their children?
- Which sources do the parents use while making decisions about vaccines?
- Is there a correlation between vaccine hesitancy/refusal/refusal for parents themselves and for their children?

The hypotheses below will be tested;

H1: Conspiracy thoughts about COVID-19 will predict parental vaccine hesitancy/refusal/refusal for their children positively.

H2: Concrete ruminative thinking about COVID-19 will predict parental vaccine hesitancy/refusal/refusal for their children negatively.

H3: Mistrust to government and health authorities will predict vaccine hesitancy/refusal/refusal for their children positively.

H4: Neglectful parenting will predict vaccine hesitancy/refusal/refusal for the children positively.

H5: Positive parenting will predict vaccine hesitancy/refusal/refusal for the children negatively.

Chapter 2

METHODS

2.1 Participants

The sample included 200 individuals between the ages of 26 to 58 (M = 42.4, SD = 6.6) in North Cyprus. The participants were all parents of children between the ages of five to 17. The sample consisted of largely mothers (76%). The percentage of parents have one (38.2%) or two children (50.4%). 17.3% of the parents participating in the study stated that they were not vaccinated and did not plan to be vaccinated. The proportion of parents who had a negative experience with vaccines in the past is 12.6%.

All participants were Turkish speakers, mostly undergraduates, and their monthly incomes indicated that the majority of the sample was in middle socioeconomic status (SES). The study was announced through social media posts, and participants were also invited personally through various social media platforms. Parents with children between the ages of 5-17 were invited to participate in the online survey using Qualtrics. This age range was selected as the sole focus of this research were based on childhood vaccination between the ages of five to 17. Online surveys were preferred to be distributed by snowball sampling where participants were able to pass on the link of the survey to other nominees. The demographic questionnaire was used to collect the sociodemographic characteristics of the participants (See Appendix A).

Table 1: Sociodemographic Characteristics of Participants

Characteristics	Values	
	n	%
Parent		
Mother	97	76.4
Father	30	23.6
Age (years)	41.9 ± 6.6	
Educational level		
Primary school	3	2.4
Middle/High school	23	18.3
University degree	60	47.6
Postgraduate degree	40	31.7
Monthly Income		
< 10,000	49	40.2
10,000-20,000	57	46.7
20,000–30,000	9	7.4
> 30,000	7	5.7

Note. N = 200 - *Parents on average had 2 children.

2.2 Measurement Tools

2.2.1 OCEANS Coronavirus Conspiracy Scale

Conspiracy thoughts were measured using the OCEANS Coronavirus conspiracy scale (Freeman et al, 2020). The scale is made up of seven general coronavirus conspiracy scale items which address general thought patterns about the virus (e.g., The virus is human-made) and 14-item-specific coronavirus conspiracy scale which was based on specific concerns targeted at COVID-19 vaccinations (e.g., The elite have created the virus in order to establish a one-world government). Participants were asked to indicate their answers by selecting a response ranging from one (Do not agree) to five (Completely agree). Turkish translation of the scale was made by Zainab and

Bayraktar (2021) for an unpublished master thesis. The Cronbach's alpha of the scale was .94. (See Appendix B).

2.2.2 The Alabama Parenting Questionnaire

Parental styles were measured using The Alabama Parenting Questionnaire (APQ). The translated Turkish version - Alabama Ebeveyn Davranışları Ölçeği (AEDÖ) was used for the study (Çekiç et al., 2018) (See Appendix C). The APQ comprises 42 items (α = .70), each of which is rated on a 5-point scale from 1 = never to 5 = always. The APQ had six different sub-scales. The parental involvement scale consisted of 10 items (α = .77), the positive parenting scale consisted of 6 items (α = .68) and the poor supervision scale consisted of 10 items (α = .65). Other two scales were inconsistent discipline and corporal punishment. The inconsistent discipline scale consisted of 6 items (α = .46) and corporal punishment scale consisted of 3 items (α = .61). Items related to other disciplinary practices (7 items) were not included in the scoring of the scale.

Using this scale, parental involvement, positive parenting, and poor supervision scales (26 items) were used to measure the dimensions of parental discipline. Parental involvement and positive parenting items were combined to measure the study's 'positive parenting' variable. (1) Positive parenting variable involved items such as; positive involvement with children (e.g., you have a friendly talk with your child), supervision and monitoring (e.g., you get so busy that you forget where your child is and what he/she is doing), and positive parenting (e.g., You reward or give something extra to your child for obeying you or behaving well) items. The second variable used was 'neglectful parenting'. Poor supervision items (10 items) were used to measure the neglectful parenting variable. A total of sixteen items related to corporal

punishment, inconsistent discipline, and other disciplinary measures were removed from the questionnaire in consideration of the research hypotheses.

2.2.3 COVID-19 Rumination Scale

Rumination thoughts about COVID-19 were measured using the COVID-19 Rumination Scale (C-19RS) (Nikolova et al., 2021). The scale consisted of 6 items (e.g., I am worried about the coronavirus; Thoughts about coronavirus disturb my sleep) and participants were able to select a response on 5- point Likert scale (1-definitely disagree to 5-definitely agree).

Cronbach's Alpha for the original scale was 0.85 (Nikolova et al.,2021) Scale was translated into Turkish by the researchers. In the adaptation study, the internal consistency of the scale was found to be satisfactory (α = .91) (See Appendix D).

2.2.4 Brief State Rumination Inventory (BSRI)

The BSRI (Marchetti et al. 2018) is a self-report scale that measures state rumination and consists of 8 items (i.e., Right now, I am thinking: "why do I have problems other people don't have?"). Participants provide feedback on a 100-mm visual analogue scale, with 0 representing "completely disagree" and 100 representing "completely agree". Turkish version, translated by Altan-Atalay et al., (2020) was used. Cronbach's alpha coefficient for the scale was .91 (See Appendix E).

2.2.5 Trust to Health Authorities

Trust to health authorities was asked to participants within the demographic questionnaire. Five items were used to ask participants about their trust levels. These 5 items were combined into a single variable by researchers (M = 2.5,4 SD = 1.05).

2.2.6 Socioeconomic Status

Socioeconomic status variable was created using the information parents gave for the questions related to their education and income within the demographic questionnaire.

2.2.7 Vaccine Hesitancy/Refusal

Vaccine hesitancy/refusal for children variables were computed from two questions within the demographic questionnaire. The child vaccine hesitancy/refusal/refusal variable was created for parents who said “No” to both of the following items: Have you given vaccination approval for your child/children? If not, do you plan to vaccinate your child/children?

2.3 Procedure

Prior data collection, a power analysis was conducted using G*Power version 3.1.9.7 (Faul et al., 2007) for sample estimation. Analysis was conducted using an effect size of .25 an alpha error of .05 and a power of 0.80. Using the analysis, it was recommended to recruit 179 participants to reach significance.

Data collection began in January 2022 after getting approval from the Research Ethics Committee (See Appendix H). Questionnaires were distributed to participants through social media. Participants were first given an informed consent form where they were told that the study was about the vaccination attitudes of parents living in Northern Cyprus (See Appendix F). Within this form, parents were also informed about the confidentiality of their information. To be able to begin with the questions, participants were asked to give consent for their participation and data collection. The participants were informed about their right to withdraw from the study at any time. Also, the responses have not been downloaded to the software used (i.e., Qualtrics) if the participant chose to withdraw.

The survey first included demographic questions where participants were asked about their age, educational status, information about their children, and the vaccinations

they had. Information about participants' trust in health authorities and healthcare workers was also gathered from the demographic questionnaire. Participants were then given, the OCEANS Coronavirus conspiracy scale, The Alabama Parenting Questionnaire (APQ), COVID-19 Rumination Scale (C-19RS), and lastly Brief State Rumination Inventory.

The whole survey took a minimum of 20 minutes to complete, and participants completed the questionnaire in their own time. At the end of the study, a debriefing form was shown, and participants were provided with a full explanation of the assumptions being tested (See Appendix G). In the debriefing process, it was also suggested that participants seek professional advice if they felt they needed it about the study's issues in their own lives.

Data collection continued until June 2022 and following this, data analysis was done using Statistical Package for the Social Sciences (SPSS 26). First, descriptive statistics were generated, and then correlational analysis was performed to seek any correlations between suggested variables. A logistic regression analysis was performed to investigate the relationship between vaccine hesitation and desired factors. The Brief State Rumination Inventory was not utilized during the analysis phase, as this particular scale solely assessed the general rumination tendencies among the participants.

Chapter 3

RESULTS

3.1 Demographics

Parents were asked about their trust in health authorities. Most parents indicated mistrust to the health authorities and the government. For instance, parents were asked to state their level of trust in the Ministry of Health and 29.7% of the parents indicated being strongly untrustful to these services. The level of trust in the Supreme Board of Health was stated to be neutral as parents were unsure whether to trust or mistrust these health boards (32.3%). The same uncertainty was also stated for hospitals with 33.9% of neutral results to trusting hospitals in North Cyprus. On the other hand, parents indicated a good level of trust (35.8%) to healthcare workers. However, parent's level of trust to the healthcare system in North Cyprus was shown to be very low with 37% of parents indicating strong untrustworthiness to the system (See Table 2).

Moreover, parents were also asked two important questions in regard to this study. Firstly, parents were asked about their attitude to vaccinations in general. 75.8% of parents were found to see vaccinations as necessary to protect against viruses and diseases. However, 19.8% of the parents also indicated seeing vaccinations as a threat to a greater health risk (See Figure 1.) Secondly, parents were also asked about their attitudes towards COVID-19 vaccinations. 64.2% of parents saw COVID-19 vaccinations as necessary for protection against the virus. Whereas COVID-19

vaccines were viewed as posing a bigger danger to health by 22.8% of parents (See Figure 2).

Table 2: Trust to Health Authorities

	Level of Trust (Percentage)	**Mean**	**SD**
Ministry of Health	Strongly untrustful (30%)	2.63	1.23
Supreme Board of Health	Strongly untrustful (32%)	2.58	1.23
Hospitals	Neutral (42%)	2.50	1.15
Healthcare Workers	Trustful (36%)	2.97	1.13
Healthcare System	Strongly untrustful (37%)	2.20	1.11

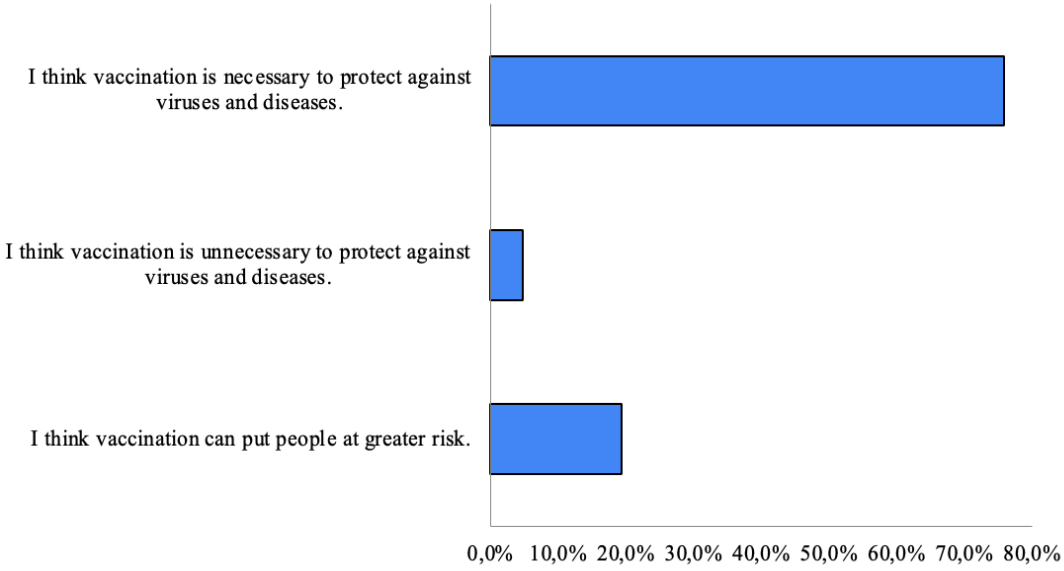

Figure 1: Attitudes towards Vaccinations in General

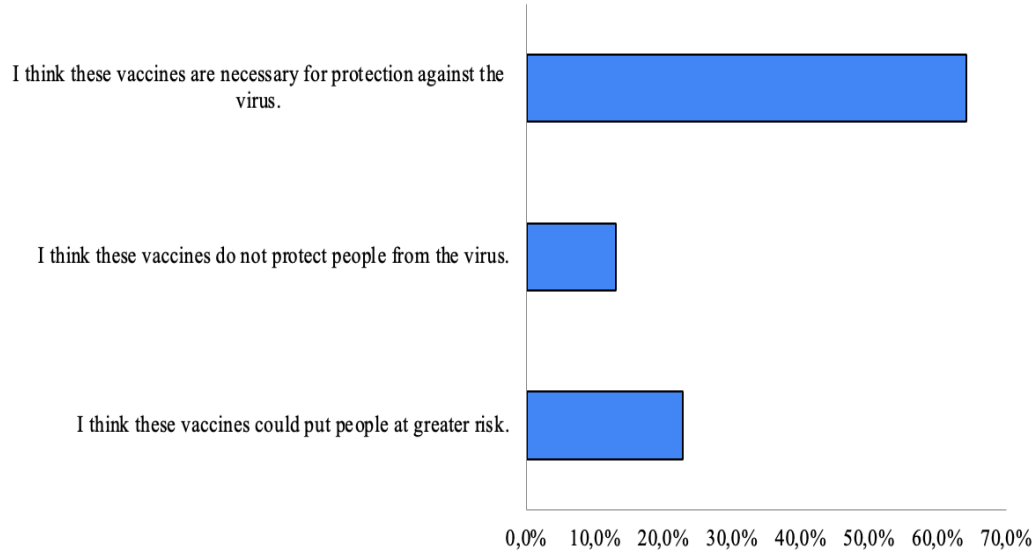

Figure 2: Attitudes towards COVID-19 vaccinations

3.2 Frequency of Vaccine Hesitancy/Refusal

Participants were asked the following question: 'Have you given vaccination approval for your child/children?' 'Yes' was labeled as 'approved vaccination and 'No' was regarded as 'reluctant to vaccinate'.

Thirty nine percent of the sample reported being vaccine hesitant and described themselves as being reluctant to vaccinate their children.

The correlation coefficient among the variables was determined prior to doing the logistic regression analysis (See Table 3). The measurement of correlation coefficients enabled the examination of associations among variables, assessing whether these links conform to anticipated patterns.

Table 3: Descriptive Statistics and Correlations for Research Variables

Variable	N	M	SD	1	2	3	4	5	6
1.Trust to Health Authorities	128	2.55	1.05						
2. Conspirational Thinking	117	2.91	0.86	-0.21*					
3. Positive Parenting	113	4.21	0.60	-0.07	-0.11				
4. Poor Supervision	111	1.76	0.57	-0.07	0.16	-0.31**			
5. Covid 19 Rumination	108	2.51	0.96	0.19*	-0.15	0.09	0.05		
6. Vaccine hesitancy/refusal for children	126	1.39	0.49	-.0.21	0.38	0.07	-0.14	-0.22	

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

3.3 Inferential Statistics

Logistic regression analysis was used to analyze the relationship between vaccine hesitancy/refusal for children and the study's predictor variables across three steps. Age, gender, socioeconomic level, trust in health organizations, and previous vaccination experiences were entered as control factors. Concrete ruminative thinking, positive parenting, and neglectful parenting were entered in the second and third steps. The parents who replied "No!" to the questions "Have you approved the vaccination of your children for COVID-19?" and "If not, would you think in the near future?" were classified as vaccine hesitant/refusals for children (coded as 2). The others were labeled as neutrals and coded as 1. The results are presented in Table 4.

After all the variables were considered, vaccine hesitancy/refusal was found to be mostly affected by conspiracy thinking (OR= 3.35; 95% CI = 1.71-6.57). The rejection of COVID-19 vaccinations for children increased twelvefold during this study because of pandemic conspiracy theories.

Another variable that proved to be the most influential in influencing parents' vaccination hesitation was the ruminative thinking patterns each parent had (OC: 1.01; 95% CI = 0.99-1.03). Concrete ruminative thinking about COVID-19 was found to reduce the risk by nine-fold.

Trust in health authorities is found to be an important contributor in terms of vaccine hesitancy/refusal (OC: 0.64 ; 95% CI = 0.41–0.99). Vaccine hesitation in children and in themselves is found to be decreasing when trust in health authorities increases. Poor supervision was found to be negatively related to vaccine hesitancy/refusal/refusal for children (OC: 0.31 95% CI = 0.11-0.86).

Table 4: Logistic Regression Analysis for Vaccine hesitancy/refusal/Refusal of Parents for Covid-19 Vaccines for Children

Predictor	β	SEβ	Wald's X2	df	P	eβ
Constant	-.554	.396	1.963	1	.161	.574
Trust to Health Authorities	-0.46	0.23	3.94	1	0.05*	0.64
Conspirational Thinking	1.21	0.34	12.45	1	0.0001*	3.35
Positive Parenting	0.33	0.57	0.35	1	0.56	1.39
Poor Supervision	-1.19	0.53	5.10	1	0.02*	0.31
Ruminative Thinking	-1.587	.524	9.16	1	0.002*	.204

Note. Cox and Snell R^2 = .361 Nagelkerke R^2 = .482 c-statistics: 74.5% *p<.01, **p<.05

Chapter 4

DISCUSSION

Since 2019, the global impacts of the COVID-19 pandemic have been visible, and COVID-19 vaccines have long been questioned. In this current study, predictors of parental vaccine hesitancy/refusal have been investigated.

In this study, various research questions were evaluated. The first one was about sociodemographic factors of parents including age, education, and income levels. The socioeconomic background of the sample, specifically the level of education and income, did not have a significant predictive influence on parental hesitation or reluctance to vaccinate their children.

To begin with, the vast majority of this study's sample mainly included middle-class families as their income was in the middle threshold. Parents who were at a low socioeconomic level were not found in our sample population, which might explain why vaccine hesitancy/refusal rates are lower. A number of studies have investigated the influence of income on vaccine hesitancy/refusal. Wu et al., (2008) found that individuals in lower socioeconomic households have shown more mistrust of the healthcare system and therefore have been more vaccine hesitant. Bertoncello et al., (2020) also found that families in economic hardship and low income have been more vaccine-hesitant towards their children. On the other hand, parents of higher socioeconomic statuses have shown less hesitancy as they have more access to

improved knowledge about vaccinations (Ambwani et al., 2020). In general, vaccine hesitancy/refusal rates have been found to be high in lower socioeconomic status individuals (Boulton et al., 2018). However, rates of vaccine hesitancy/refusal can also vary as a result of additional factors specific to the situation, and they can be linked to disparities in access to vaccination, financial implications, and level of knowledge and understanding.

The influence of parental age on vaccine hesitancy/refusal has previously been documented (Facciolà et al., 2019). In the study conducted by Opel et al. (2011), it was observed that parents belonging to a younger age group exhibited a greater degree of reluctance towards vaccination. Furthermore, with regard to age, there is a consistent association between increased usage of social media and the development of negative attitudes towards vaccination, as indicated by the research conducted by Volkman et al. (2021). The reason behind this might be that younger generations are more likely to utilize social media platforms (such as Facebook and Instagram), and unofficial vaccine information may have a disproportionate impact on them (Fietkiewicz et al., 2016). Focusing on this aspect of the situation might also explain other research questions about sources of information and underline the importance of age differences in vaccine hesitancy/refusal. Therefore, it can be argued that younger parents are the ones most impacted by social media and that social media platforms are frequently used to spread anti-vaccination attitudes and fear-inducing information. To combat the spread of misleading information, governments and health officials could strike a balance by releasing evidence-based information that answers irrational worries. Within this study, the average age in the sample of the current study was approximately 41, and a significant number of parents fell into the middle-aged category. The sample did not include many young parents, which may potentially

explain why vaccine hesitancy/refusal rates were lower. It may be that middle-aged parents in the sample were much more resilient to misleading vaccine information.

In terms of education, parents with a higher level of education may employ certain sources of information, depending on a critical mindset and making more deliberate decisions (Feiring et al., 2015). On the other hand, people with lower levels of education may be less likely to get immunizations due to misconceptions about the efficacy and safety of vaccines or because of rigid anti-vaccine attitudes (Larson et al., 2016). There are, however, some conflicting results that show no connection between education level and vaccination reluctance (Arat et al., 2019).

The results revealed that the participants in the study were predominantly individuals with a high level of education, with the majority of them possessing both an undergraduate and postgraduate degree. As suggested by previous research, parents who have received a higher education are likely to utilize specific sources of information, depending on their ability to analyze critically and make well-informed decisions (Feiring et al., 2015). Also, parents with higher educational attainment exhibit less favorable attitudes toward vaccinations (Hak et al., 2005). However, our findings suggest the contrary and showed that parents with higher degree education will not be hesitant towards COVID-19 vaccinations. It is possible that parents' acquisition of a higher level of education allowed them to obtain accurate information about the administration of COVID-19 vaccinations, which subsequently led to their consent for vaccinating their children.

Moreover, the other research question that the researchers were interested in was about past experiences in vaccinations. Participants were asked whether they had

experienced any negative experiences with vaccinations. These experiences were asked in relation to social factors such as past experiences with health services, friends, and close family members. Trust and past experiences are often known to be related together (de Figueiredo et al., 2020). For instance, the current vaccine hesitancy/refusal among African American is a result of past mistrust of governmental officials and medical professionals, among several other factors such as past medical abuses (Razai et al., 2021).

Stefanoff et al., (2010) also suggest that vaccine decision-making is heavily impacted by a variety of social variables, including previous interactions with healthcare providers, personal histories, perceptions of control, and chats with friends. In this study's sample, parents were not found to have experienced too many negative past experiences about vaccinations. However, a significant amount of distrust towards the healthcare institutions and the government was observed. The inclination to lack confidence in the government and healthcare establishments could potentially account for the reservations exhibited by certain parents when it comes to immunizing their children. The absence of trust in governmental authorities and healthcare providers may lead to postponement or refusal of vaccinations, thereby affecting the manner in which parents approach the vaccination process for their children, as well as for themselves.

Positive parenting as well as neglectful parenting (i.e., poor supervision) were also examined and the result of this study is the first to examine vaccine hesitation in connection with childhood vaccination. This investigation has uncovered a link between vaccine hesitancy/refusal and various styles of parenting, where inadequate supervision emerges as a significant factor. It was expected that neglectful parenting

would result in a reluctance towards vaccination in children, while the belief persisted that the adoption of positive parenting approaches would not lead to any hesitation.

It is noteworthy that positive parenting and poor supervision predicted vaccine hesitancy/refusal of children in the opposite direction to what is expected. Poor supervision was found to be negatively related to vaccine hesitancy/refusal for children. In other words, our results indicated that the parents' vaccine hesitancy/refusal was not related to neglecting the health conditions of their children. Instead, this type of parenting style resulted in less vaccine hesitancy/refusal. On the other hand, positive parenting was not found to be related with vaccine hesitancy/refusal. Previous research has highlighted the association between parental warmth and parental vaccination decisions (Park & Walton-Moss, 2012). Due to this, positive parenting was expected to be related to vaccination approval as children's health-related practices development depends heavily on parental guidance. However, the results indicate that deciding on whether to vaccinate their children might not only rely on the parenting style they have but can also depend on other factors. For instance, Napolitano, D'Alessandro, and Angelillo, (2018) indicated that if the parents perceived a lack of confidential information about vaccination, they would be less willing to give consent for their children. The motivation might even be to protect the child from potential immunization risks and might rely on other factors. These factors that affect parents might include a history of not receiving influenza vaccination, not believing in the severity of COVID-19 and fear of health risks (Aw et al., 2021). Therefore, it can be said that vaccination decisions do not only rely on parenting styles but other factors should be considered when researching vaccine hesitancy/refusal. In the context of positive parenting, establishing a direct correlation is not possible. However, when it comes to neglectful parenting, it can be contended that poor

supervision may not be associated with the well-being of the child, but rather it might only manifest in other parental behaviors. Neglectful parenting has the potential to contribute to the emotional mistreatment of a child, although this may not extend to their physical health. From another perspective, it is worth noting that the number of neglectful parents identified in the sample of this study was relatively low. This factor could potentially account for the contradictory findings that were observed.

Furthermore, conspiracy thinking was expected to result in higher levels of parental vaccine hesitancy/refusal. The results were in line with this expectation where it was found that conspiracy thinking of parents has led them to be hesitant towards vaccinating their children. This conclusion is backed by a prior study performed on 24 nations, which found that those who believed in vaccine-related conspiracies were more likely to hold anti-vaccine attitudes (Hornsey et al., 2018). Following COVID-19 conspiracy theories and vaccine misinformation on social media has been one of the key sources of these conspiracies in the context of COVID-19 (Islam et al., 2021). The circulation of anti-vaccine conspiracies particularly on social media platforms has been one of the reasons behind the rise in vaccine hesitancy/refusal. The results of this study also confirm this as parents' vaccine decisions were also found to be influenced by conspiracies. This hesitancy, driven by misinformation, has the potential to hinder the effectiveness of the COVID-19 vaccine program and may also have a cascading impact on other vaccination initiatives. Thus, it is imperative to combat the spread of such myths and conspiracies surrounding COVID-19 and vaccines through a collaborative effort. The effort to diminish these myths will help parents instill greater acceptance of COVID-19 vaccinations and potentially help them to decide whether to vaccinate their children. This occurrence is likewise witnessed in the context of other vaccinations administered during childhood, as it affords an opportunity for parents to

debunk any notions grounded in conspiracy and to foster a more comprehensive understanding of the importance of vaccinations.

Moreover, the investigation placed emphasis on ruminative thinking. It was anticipated that ruminative thinking would alleviate the vaccine hesitancy/refusal experienced by each parent. Numerous studies on rumination have indicated that it generally leads to unfavorable outcomes and is commonly regarded as a risk factor for various psychiatric disorders (Lyubomirksky et al., 2015). For example, Olatunji et al., (2013) stated that excessive worrying can result in ruminations that have a negative impact on individuals. However, in the context of this research, rumination was approached in an adaptive manner with regard to vaccine hesitancy/refusal. As previously mentioned, concrete rumination has been shown to reduce reactivity levels and enhance problem-solving skills in individuals (Rimes & Watkins, 2005). Therefore, it was anticipated that parents who engage in rumination would be less inclined to exhibit vaccine hesitancy/refusal, as they would potentially handle negativity in a more lucid and precise manner. The analysis yielded the anticipated outcomes, revealing a negative correlation between rumination and vaccine hesitancy/refusal.

Additionally, the study also involved the hypothesis concerning the lack of confidence in the government and health authorities. Trust plays a significant role in determining an individual's vulnerability (Larson et al., 2018). Particularly in the context of the COVID-19 infodemic, where uncertainty reached its pinnacle, leading to doubts regarding the safety of vaccines (Ward et al., 2017). Furthermore, trust has been associated with prior experiences, which were also subjected to scrutiny in this study. Adverse past experiences with vaccines have been linked to general vaccine

hesitancy/refusal (de Figueiredo et al., 2020). It was anticipated that this research would confirm a connection between mistrust and vaccine hesitancy/refusal. As predicted, placing trust in health authorities and governments proved to be a protective factor in terms of vaccine acceptance. Parents who exhibited trust in health authorities and governments displayed lower levels of vaccine hesitancy/refusal. This finding can truly assist governments and health authorities in establishing how trust in vaccinations can be increased or encouraged, hence decreasing vaccine hesitancy/refusal rates within that country.

4.1 Limitations and Future Research Implications

The existing study can be characterized as having certain methodological constraints. The collection of data was carried out using an online platform that allowed participants to complete it at their own convenience and in their preferred environment. This poses a potential issue as the researchers had no control over extraneous variables that may have influenced the results. For example, the questionnaire included numerous scales that may have been challenging for some participants to comprehend. However, these participants were unable to seek clarification as they completed the questionnaire in isolation. During the analysis phase, instances of skipped questions were observed, a common problem encountered in online surveys. It is likely that participants did not comprehend the questions and therefore chose to skip them. Furthermore, the length of the questionnaire may have induced fatigue among participants, leading them to skip or fabricate responses.

It is also important to acknowledge the potential influence of the social desirability effect within the survey. Participants may have answered in a manner that aligned with

the researchers' expectations, which could compromise the accuracy and validity of the research.

Moreover, this survey was conducted with a sample of 200 individuals from North Cyprus. Generalizing the findings of this sample to other cultures may not be applicable, but it can be argued that the results provide a representative depiction of parents in North Cyprus. Additionally, within this sample of 200 participants, it can be reasonably assumed that the age distribution was evenly spread, thus indicating a comprehensive representation of each age group.

In terms of future implications, this research offers valuable insights into the factors influencing vaccine hesitancy/refusal. Specifically, the relationship between parenting disciplinary styles and vaccine hesitancy/refusal has not been previously explored. This study highlights the significance of considering parental behaviors in such situations. It is suggested that this topic should be further investigated in future research, as it has been identified as a predictive variable in terms of parental vaccine hesitancy/refusal. The parameters examined in this study may be taken into account when administering different vaccines in order to mitigate levels of vaccination reluctance. As mentioned earlier, vaccine hesitancy/refusal can arise due to the infodemic phenomenon. The impact of parents' use of social media and the internet was not thoroughly examined in this study. To gain a comprehensive understanding of this area of study, a qualitative analysis is recommended to supplement and reinforce research on vaccine hesitancy/refusal (see McAndrew & Allington, 2020; Romer & Jamieson, 2020).

In this investigation, the concept of ruminative thinking was explored as a non-pathological construct. However, ruminative thinking has predominantly been associated with anxiety and psychopathology. In the context of the ongoing pandemic, individuals with anxiety disorders have exhibited a greater degree of skepticism towards COVID-19 vaccinations. It has been observed that anxious individuals tend to engage in more research and questioning regarding COVID-19 vaccines, leading to a greater hesitancy towards getting vaccinated (McNeil & Purdon, 2022). Moreover, individuals with excessive ruminations and a heightened fear of the virus during the COVID-19 pandemic have been found to experience lower levels of well-being (Satici et al., 2020). Consequently, individuals with high levels of ruminative thinking may experience heightened nervousness and stress in relation to the dangers posed by COVID-19, which may in turn make them more inclined to vaccinate themselves and their children. Further exploration of this relationship through future research could provide empirical evidence to determine whether rumination is indeed a facet of psychopathology.

Furthermore, the findings of this study could serve as a valuable indicator for governments and health authorities, as it appears that mistrust can lead to vaccine hesitancy/refusal. In light of this, it would be advisable for governments and health authorities to implement educational intervention programs that equip individuals with accurate knowledge about pandemics, vaccinations, and related topics. By disseminating such educational interventions, the population can be informed, and the levels of uncertainty can be reduced. Consequently, attitudes of vaccine hesitancy/refusal can be eliminated and trust between governments and individuals can be strengthened.

As previous research has suggested, it is crucial for authorities to maintain truthfulness and transparency in their communication. Overpromising and providing confusing information should be avoided, as this can undermine trust and hinder the public's understanding of vaccinations and herd immunity (Jennings et al., 2021). Instead of relying on passive, one-sided communication methods, open discussion, and public participation are vital for filling the gaps in our current knowledge about vaccinations (Mills et al., 2020).

Likewise, educating people about the potential outcomes and advantages of vaccines can also help reduce the prevalence of conspiracy theories. Implementing seminars in schools that guide individuals on discerning reliable sources of information could be an effective strategy. By promoting the consumption of accurate information, it is possible that conspiracy theories may diminish in certain populations.

Lastly, it would be worthwhile to replicate this study in different countries to gain diverse perspectives on parental vaccine hesitancy/refusal and ascertain the persistence of the same factors across different cultures. Additionally, while the current study primarily collected quantitative data on vaccine hesitancy/refusal, conducting qualitative research could prove beneficial in providing the research community with more detailed insights into specific factors contributing to vaccine hesitancy/refusal. This could potentially enhance our understanding of the underlying reasons behind these predictor variables and vaccine hesitancy/refusal.

4.2 Conclusion

The present investigation sought to examine whether specific variables, namely conspiracy thinking, rumination, and parenting styles, could serve as predictors of

parental hesitancy towards COVID-19 vaccinations. The findings indicated that inclinations toward conspiracy theories and a lack of trust in governmental institutions were linked to hesitancy concerning COVID-19 vaccines. Conversely, factors such as rumination and positive parenting were associated with a decrease in hesitancy. Particularly noteworthy was the observation that trust in health authorities was markedly deficient within the targeted population, thus greatly heightening the probability of future vaccine hesitations. These findings are anticipated to offer valuable contributions to the ongoing COVID-19 pandemic endeavors, providing fresh insights into pandemic research and guiding improvements. Policymakers can address trust-related concerns to foster resolution and enhance confidence in COVID-19 vaccines. It is imperative to address these concerns, as the results indicate an issue characterized by insufficient knowledge and skepticism regarding vaccines and their potential side effect

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APPENDICES

Appendix A: Demographic Questionnaire

Demografik Bilgi Formu

1. Cinsiyetiniz:

Kadın ☐ Erkek ☐ Diğer ☐ Belirtmek İstemiyorum ☐

2. Yaşınız:

3. Eğitim Durumunuz:

İlkokul ☐

Ortaokul/Lise ☐

Lisans ☐

Yüksek Lisans/Doktora ☐

4. Gelir Seviyeniz:

<10,000 ☐

10,000 – 20,000 ☐

20,000 – 30,000 ☐

> 30,000 ☐

5. Kaç çocuğunuz var? _____

6. Çocuğunuzun/çocuklarınızın yaşı/yaşları kaçtır?____

7. Çocuğunuz/çocuklarınız için aşı onayı verdiniz mi?

Evet ☐ Hayır ☐

8. Vermediyseniz vermeyi düşünüyor musunuz?

Evet ☐ Hayır ☐

9. Siz aşı oldunuz mu? Hayır ise 10. Soruya geçiniz.

Evet ☐ Hayır ☐

10. Evet ise, hangi aşıyı/aşıları kaç doz oldunuz? _____

11. Evet ise, Tabipler Birliği'nin belirlediği aşı takvimine göre yeniden aşı olmayı düşünüyor musunuz?

Evet ☐ Hayır ☐

12. Sağlık Bakanlığı'na, ne derece güveniyorsunuz?

Çok Güveniyorum

Güveniyorum

Ne güveniyorum ne güvenmiyorum

Güvenmiyorum

Hiç Güvenmiyorum

13. Sağlık Üst Kurulu'na, ne derece güveniyorsunuz?

Çok Güveniyorum

Güveniyorum

Ne güveniyorum ne güvenmiyorum

Güvenmiyorum

Hiç Güvenmiyorum

14. Hastanelere, ne derece güveniyorsunuz?

Çok Güveniyorum

Güveniyorum

Ne güveniyorum ne güvenmiyorum

Güvenmiyorum

Hiç Güvenmiyorum

15. Sağlık çalışanlarına ne derece güveniyorsunuz?

Çok Güveniyorum

Güveniyorum

Ne güveniyorum ne güvenmiyorum

Güvenmiyorum

Hiç Güvenmiyorum

16. Ülkedeki sağlık sistemine, ne derece güveniyorsunuz?

Çok Güveniyorum

Güveniyorum

Ne güveniyorum ne güvenmiyorum

Güvenmiyorum

Hiç Güvenmiyorum

17. Adapass uygulamasını yerinde buluyor musunuz?

Evet ☐ Hayır ☐

18. Geçmişte aşılarla ilgili olumsuz bir deneyim yaşadınız mı?

Evet ☐ Hayır ☐

19. Siz Covid-19'a yakalandınız mı?

Evet ☐ Hayır ☐

20. Yakınlarınızdan biri Covid-19'a yakalandı mı?

Evet ☐ Hayır ☐

21. Arkadaşlarınızdan biri Covid-19'a yakalandı mı?

Evet ☐ Hayır ☐

22. Yakınlarınızdan birini Covid-19 pandemi sürecinde kaybettiniz mi?

Evet ☐ Hayır ☐

Appendix B: OCEANS Coronavirus Conspiracy Scale (Freeman et.al, 2020)

Aşağıdaki ifadelere ne kadar katılıp katılmadığınızı 5'li ölçek üzerinden değerlendiriniz (1-Kesinlikle katılmıyorum, 5- Kesinlikle katılıyorum)

	Kesinlikle katılmıyorum (1)	Katılmıyorum (2)	Fikrim yok (3)	Katılıyorum (4)	Kesinlikle katılıyorum (5)
Virüs bir aldatmacadır.					
Virüs insan yapımıdır.					
Virüsün yayılması dünya nüfusunu azaltmak için planlı bir girişimdir.					
Virüs hükümetler tarafından siyasi kontrol elde etmek kasıtlı biçimde yayılmaktadır.					
Virüs bir grup güçlü insan tarafından daha fazla para kazanmak için yayılmaktadır.					
Virüs bir ulusun diğerini istikrarsızlaştırması için kasıtlı biçimde yayılmaktadır.					
Virüs global şirketlerin kontrolü ele alması için planlı biçimde yayılmaktadır.					

Koronavirüs, Batı'yı yok etmek için Çin tarafından geliştirilmiş bir biyolojik silahtır.					
Virüs, Amerika Birleşik Devletleri tarafından üretilen biyolojik bir silahtır.					
BM ve DSÖ, virüsü küresel kontrolü ele alacak şekilde yapay biçimde üretti.					
Yahudiler, mali kazanç elde edip ekonomiyi çökertmek için virüsü yarattılar.					
Elitler (ayrıcalıklı insanlar), tek dünya hükümeti kurmak için virüsü yarattı.					
Bill Gates, virüsü dünya nüfusunu azaltmak için yarattı.					
Büyük ilaç şirketleri, aşılardan kar sağlamak için koronavirüsü yarattı.					
Koronavirüs, hükümetler tarafından polis devletini kurmak için kullanılıyor.					
Koronavirüs, 5G'den kaynaklanır ve radyo dalgaları yoluyla iletilen bir radyasyon					

zehirlenmesi türüdür.					
Virüs, gerçek dünyayı bir simülasyona dönüştüren küresel bir komplo için kullanılan bir sis perdesidir.					
Koronavirüs herkesi aşı olmaya zorlamak için yaratıldı.					
Aşılar, toplu kısırlaştırmayı gerçekleştirmek için kullanılmaktadır.					
DSÖ'nün halihazırda etkili bir aşısı vardır ve bunu piyasaya sürmemektedir.					
Antikor testi, DNA bilgilerimizi toplamak için yaratılan bir komplodur.					

Appendix C: The Alabama Parenting Questionnaire (APQ) – (Turkish version - Alabama Ebeveyn Davranışları Ölçeği (AEDÖ)

Sevgili anne babalar, aşağıda çocuk yetiştirme ile ilgili ifadeler vardır. Bu ifadelerin sizin için ne kadar uygun olduklarını size göre en doğru olacak şekilde her madde için ayrı ayrı işaretleyiniz. Birden çok çocuğunuz varsa lütfen aşağıdaki ifadeleri çocuklarınızdan sadece birini dikkate alarak doldurunuz. Muhtemel cevaplar şöyledir:

Hiç (1) Neredeyse Hiç (2) Bazen (3) Sık Sık (4) Her Zaman (5)

Lütfen anketteki bütün maddeleri cevaplayınız.
Katkılarınız için teşekkürler.

Maddeler	Hiç	Neredeyse hiç	Bazen	Sık sık	Her zaman
Çocuğumla arkadaşça konuşurum.					
Çocuğum iyi bir şey yaptığında bunu ona söylerim.					
Çocuğumun sosyal aktivitelere katılmasını desteklerim.					
Söylediklerimi yaptığında veya uslu durduğunda çocuğumu ödüllendiririm.					
Çocuğum gittiği yeri bana haber vermez.					
Çocuğumla oyun oynarım ya da onunla eğlenceli etkinlikler yaparım.					
Çocuğuma okulda gününün nasıl geçtiğini sorarım.					
Çocuğum akşamları olması gereken saatte evde olmaz.					
Çocuğumun ödevlerini yapmasına yardım ederim.					
İyi bir şey yaptığında çocuğumu takdir ederim.					
Çocuğuma bir sonraki günüyle ilgili planlarını sorarım.					
Çocuğumu sosyal etkinliklere götürürüm.					
Akıllı durduğunda çocuğumu överim.					
Çocuğum benim tanımadığım arkadaşlarıyla vakit geçirir.					
İyi bir şey yaptığında çocuğumu kucaklar veya öperim.					
Çocuğum ne zaman döneceğini söylemeden dışarı çıkar.					

Çocuğumla arkadaşları hakkında konuşurum.					
Çocuğum hava karardıktan sonra yanında bir yetişkin olmadan da dışarı çıkar.					
Çocuğum ailece yapacağımız etkinliklerin planlanmasında fikrini söyler.					
O kadar meşgul olurum ki çocuğumun nerede olduğunu ve ne yaptığını unuturum.					
Çocuğumun veli toplantılarına katılırım.					
Ev işlerinde yardım ettiğinde bundan memnun olduğumu çocuğuma söylerim.					
Çocuğumun söylediğim saatte eve gelip gelmediğini kontrol etmem.					
Nereye gittiğimi çocuğuma söylemem.					
Çocuğum, okuldan dönmesi gereken saatten daha geç evde olur.					
Çocuğum evde tek başına kalır.					
Çocuğum yaramazlık yaptığında bunu görmezden gelirim.					
Verdiğim bazı imkânları veya harçlığını geri alarak çocuğumu cezalandırırım.					
Çocuğumu odasına göndererek cezalandırırım.					
Yanlış bir şey yaptığında çocuğuma bağırıp çağırırım.					
Yaramazlık yaptığında bunun neden yanlış olduğunu çocuğuma sakince açıklarım.					
Çocuğumu bir süreliğine bir köşede oturtarak veya ayakta durdurarak cezalandırırım.					
Ev işleri yaptırarak çocuğumu cezalandırırım.					

Appendix D: Covid-19 Rumination Scale (C-19RS)

Aşağıdaki cümlelerin sizin durumunuzu ne kadar ifade ettiğini 5'li ölçek üzerinden değerlendiriniz (1-Kesinlikle beni ifade etmiyor, 5- Kesinlikle beni ifade ediyor)

	Kesinlikle Beni İfade Etmiyor (1)	Beni İfade Etmiyor (2)	Ne ediyor, ne etmiyor (3)	Beni İfade ediyor (4)	Kesinlikle Beni İfade Ediyor (5)
Koronovirüsden (Covid-19) dolayı endileşiyim.					
Koronovirüs (Covid-19) hakkında günde birkaç kez düşündüğümü farkettim.					
Çalışırken koronavirüsle (Covid-19) ilgili düşünceleri kafamdan atmakta zorlanıyorum.					
Boş zaman aktivitelerinde (hobi, spor vs.) bile Koronovirüsü (Covid-19) düşünüyorum.					
Koronavirüs (Covid-19) ile ilgili düşünceler uykumu bozuyor.					
Bana ve aileme Koronavirüs'ün (Covid-19) bulaşmasından korkuyorum.					

Appendix E: Brief State Rumination Inventory

Lütfen aşağıdaki maddeleri şu anda nasıl hissettiğinizi ya da düşündüğünüzü göz önünde bulundurarak cevaplayın. Lütfen her bir madde için altındaki yatay çizginin üstüne o ifadeye ne kadar katılıp katılmadığınızı belirten dikey bir çizgi çizin.

1) Şu anda duygu durumum hakkında düşünüyorum.

2) Şu anda neden bu şekilde tepki gösterdiğimi merak ediyorum.

3) Şu anda neden hep bu şekilde hissettiğimi merak ediyorum.

4) Şu anda "Neden başka insanlarda olmayan sorunlara sahibim?" diye düşünüyorum.

5) Şu anda yakın zamanda söylediğim ya da yaptığım şeyleri zihnimde tekrar ediyorum.

6) Şu anda "İşlerimi neden daha iyi idare edemiyorum?" diye düşünüyorum.

7) Şu anda benim için kendimle ilgili olumsuz düşünceleri susturmak zor.

8) Şu anda neden daha iyi bir şekilde tepki veremediğimi merak ediyorum.

Appendix F: Informed Consent/Bilgi Formu

Psikoloji Bölümü

Doğu Akdeniz Üniversitesi

Gazimağusa, Kuzey Kıbrıs Türk Cumhuriyeti

Tel: +(90) 392 630 1389 Faks: +(90) 392 630 2475

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Kuzey Kıbrıs'ta yaşayan ebeveynlerin aşı tutumlarının incelenmesi

Değerli katılımcı,

Araştırmaya katılmayı kabul etmeden önce, lütfen araştırma ile ilgili aşağıda bulunan bilgileri dikkatlice okumak için birkaç dakikanızı ayırınız. Araştırma ile ilgili herhangi bir sorunuz varsa, aşağıda iletişim bilgileri olan araştırmacıyla iletişim kurabilirsiniz.

Bu araştırma Serpil Varoğlu tarafından, Prof. Dr. Fatih Bayraktar denetimi altında yürütülmektedir. Araştırmanın amacı ebeveynlerin Covid 19 aşısına karşı tutumlarını araştırmaktır. Çalışma, en fazla 20 dakikanızı alacaktır.

Çalışmaya katılımınız zorunlu değildir ve katılmayı reddetme hakkına sahipsiniz. Çalışmadan, istediğiniz bir anda, açıklama yapmaksızın çekilme hakkına sahipsiniz. Araştırmadan çekilmeniz durumunda, yanıtlarınız yok edilecektir ve araştırmada kullanılmayacaktır. Eğer araştırmaya katılmayı ve tamamlamayı kabul ederseniz, cevaplar ve anketler gizlilikle korunacaktır. İsminiz ve tanımlayıcı bilgileriniz, anketin geri kalan kısımlarından ayrı olarak muhafaza edilecektir. Veriler, araştırma tamamlandıktan sonra en çok 6 yıl boyunca muhafaza edilecektir. Verilerin analizinden sonra, araştırma ile ilgili bir rapor yayınlanabilir.

Appendix G: Debrief Form/Katılımcı Bilgi formu

Psikoloji Bölümü

Doğu Akdeniz Üniversitesi

Gazimağusa, Kuzey Kıbrıs Türk Cumhuriyeti

Tel: +(90) 392 630 1389 Faks: +(90) 392 630 2475

Web: http://brahms.emu.edu.tr/psychology

Katılımcı Bilgi Formu

Kuzey Kıbrıs'ta yaşayan ebeveynlerin aşı tutumlarının incelenmesi başlığı altında yürütülen bu çalışmaya katıldığınız için teşekkür ederim. Araştırmanın amaçlarını ve hedeflerini açıklamayı amaçlayan aşağıdaki bilgileri okumak için birkaç dakikanızı ayırınız. Araştırma ile ilgili sorularınız varsa, aşağıda iletişim bilgileri olan araştırmacıyla iletişim kurabilirsiniz.

Bu araştırmada ebeveynlerin Covid 19 aşı tereddütü ve karşıtlık düzeyleri araştırılacaktır. Bu konuda daha önce yapılan çalışmalar, ebeveynlerin komplo düşünceleri, sağlık yetkililerine ve hükümetlere güvenleri, sosyal medyadan aldıkları bilgiler ve geçmiş deneyimleri, çocuklarına aşı yaptırma konusunda tereddüt yaşamalarına neden olabileceğini göstermektedir. Bu çalışmaları, ebeveynlerin Covid 19 aşısını karşı tereddüt düzeylerini ve aşı karşıtlığının altında yatan bireysel sebeplerini ve nedenlerini inceleyebilmek amacıyla genişletiyoruz.

Araştırmada kullanılan anket doldurulduktan sonra herhangi bir rahatsızlık veya sıkıntı duyuyorsanız ve bir uzman ile konuşmak istiyorsanız, lütfen yakındaki bir devlet hastanesinin Psikiyatri birimi ile ya da Uzm. Psk. Sinem Ceral (03922285441) iletişim kurunuz.. Ayrıca, sorularınız için araştırmacı (Serpil Varoğlu,

svaroglu9@gmail.com, 0542 888 1308) veya araştırmanın danışmanı (Fatih Bayraktar, fatih.bayraktar@emu.edu.tr, 1389 1079) ile iletişim kurabilirsiniz.

Araştırmaya yaptığınız değerli katkıdan ve katılımınızdan dolayı teşekkür ediyorum.

Saygılarımla,

Serpil Varoğlu

Appendix H: Ethical Approval

Doğu Akdeniz Üniversitesi
"Erdem, Bilgi, Gelişim"
Eastern Mediterranean University
"Virtue, Knowledge, Advancement"
Galileo Galilei Sk. / Str.,
99628, Gazimağusa, KUZEY KIBRIS /
Famagusta, NORTH CYPRUS,
via Mersin 10, TURKEY
Tel: (+90) 392 630 1327
bayek@emu.edu.tr
Bilimsel Araştırma ve Yayın Etiği Kurulu (BAYEK) / Board of Scientific Research and Publication Ethics

Reference No: ETK00-2022-0018 12.01.2022

Subject: Your application for ethical approval.

Re: Serpil Varoglu and Prof. Dr. Fatih Bayraktar

Faculty of Arts & Science.

EMU's Scientific Research and Publication Ethics Board (BAYEK) has approved the decision of the Ethics Board of Psychology (date: 11.01.2022, issue: 22/01) granting Serpil Varoglu and Prof. Dr. Fatih Bayraktar from the Faculty of Art and Sciences to pursue their work titled **"Predictors of Parental Covid 19 vaccine hesitancy/refusal in North Cyprus".**

Best Regards

Prof. Dr. Yücel Vural

Chair, Board of Scientific Research and Publication Ethics - EMU

YV/ek.